

TAD06 – (A7 Notes) Chromatography

Name

1. A.6.1 State the reasons for using chromatography. (1) *The qualitative and quantitative aspects of chromatography should be outlined.*
2. A.7.1 State the reasons for using chromatography. (1) *The qualitative and quantitative aspects of chromatography should be outlined.*
2. A.7.2 Explain that all chromatographic techniques involve adsorption on a stationary phase and partition between a stationary phase and a mobile phase. (3) *Components in a mixture have different tendencies to adsorb onto a surface or dissolve in a solvent. This provides a means of separating the components of a mixture.*
 - a. Phases of Chromatography:
 - b. How can chromatography be categorized?

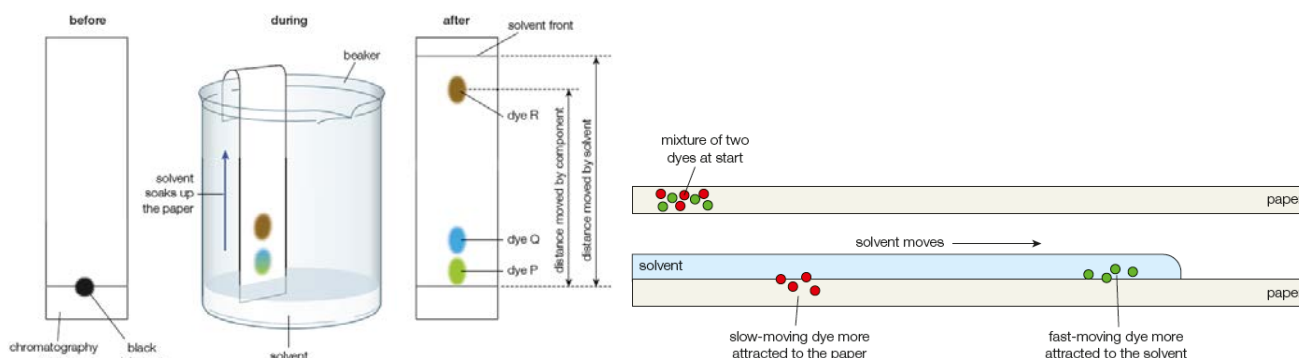
Technique	Stationary Phase	Mobile Phase	Format	Mechanism of Separation
Paper Chromatography				
Thin-layer Chromatography (TLC)				
Gas-Liquid Chromatography (GLC)				
High-Performance Liquid Chromatography (HPLC)				

- c. Interaction between mobile and stationary phase:

- i. Adsorption:

- ii. Partition:

3. A.7.3 Outline the use of paper chromatography, thin-layer chromatography (TLC) and column chromatography. (2) *An outline of the operation for each technique will be assessed. This should include an understanding and calculation of R_f values where relevant. Students should be aware that, in some instances, paper chromatograms may need to be developed, for example, in the separation of sugars.*
 - a. Paper Chromatography:



b. Thin-Layer Chromatography (TLC):

c. Column Chromatography:

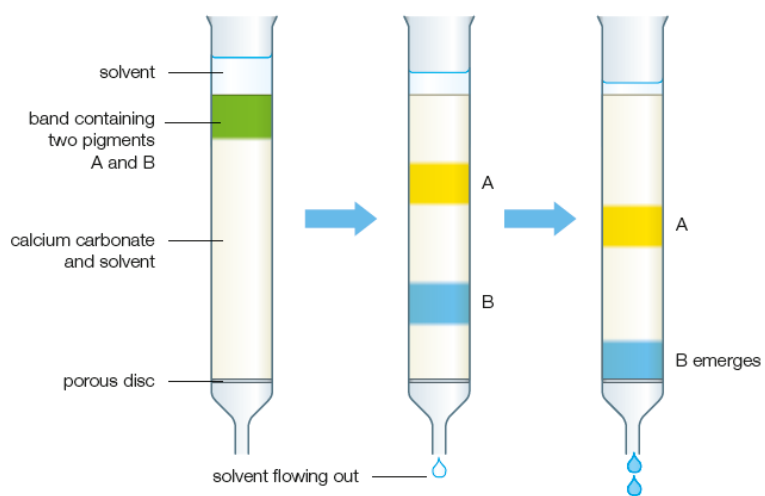


Figure 21.87 Separation of the components in plant pigments during column chromatography